PATENT CLAIMS

1. A device for raising or cultivating cells in a container-like receptacle which comprises a base and at least one lid, characterized in that the at least one lid (3) is connected to the receptacle (1) in a pressure-tight manner, and in that the receptacle (1) or the lid (3) is provided with at least one connector bore (8) for the introduction and/or withdrawal of culture medium and/or oxygen.

2. The device as claimed in claim 1, characterized in that the cells (7) can be raised or cultivated directly or indirectly in or under the lid (3) and/or on the base (23, 35, 44) or a lower lid (12).

3. The device as claimed in claim 1, characterized in that the receptacle (1) is provided on the base with a tray (10) into which the cells (7) can be placed.

4. The device as claimed in claim 1, characterized in that the receptacle (1) has a cylindrical middle part closed off at both ends by an upper lid (3) and a lower lid (12) which forms the base of the receptacle (1).

5. The device as claimed in claim 1 or 4, characterized in that the lid or lids (3, 12) and the receptacle (1) are connected to one another by a threaded connection (2, 4).

6. The device as claimed in one of claims 1 through 5,

characterized in that the lid or lids (3, 12) are each provided with an inlet bore (8) and/or an outlet bore (9).

7. The device as claimed in claim 4, characterized in that both lids (3, 12) are provided in each case with at least one bore, the at least one inlet bore (8) being arranged in one lid (3), and the at least one outlet bore (9) being arranged in the other lid (12).

8. The device as claimed in claim 5, characterized in that the threaded connection between the lid (3) and the receptacle (1) is formed by an internal thread (2') in the receptacle (1) and by an interacting external thread (4') in the lid or lids (3, 12).

9. The device as claimed in claim 5, characterized in that the threaded connection is formed by an internal thread (4) in the lid or lids (3, 12) and by an external thread (2) in the receptacle (1).

10. The device as claimed in claim 5, 8 or 9, characterized in that the threaded connection is provided with at least one sealing ring (5).

11. The device as claimed in claim 1 or 4, characterized in that the receptacle (1) is designed as a cylindrical middle part, both ends of the middle part being closed off respectively by an upper lid (3) and a lower lid (12), both lids (3, 12) being provided in each case with an extension ring (14), which extension rings (14) at least partially enclose the cylindrical middle part

sealingly from the outside.

12. The device as claimed in claim 11, characterized in that the extension rings (14) each seal off the middle part from the outside via a clamp connection.

13. The device as claimed in claim 11, characterized in that the extension rings (14) each seal off the middle part from the outside via a threaded connection.

14. The device as claimed in one of claims 1 through 13, characterized in that the receptacle (1) and the at least one lid (3) is provided on both sides with a tensioning ring (15) for introducing rolling or turning movements for the receptacle (1) and the at least one lid (3).

15. The device as claimed in one of claims 1 through 14, characterized in that a pressurizing means (17) for the receptacle (1) is connected to the inlet connector (8).

16. The device as claimed in claim 15, characterized in that the pressurizing means (17) is designed as a cylinder/piston unit.

17. The device as claimed in claim 16, characterized in that the inlet connector (8) opening into a piston space (18) of the cylinder/piston unit (17) is provided with a check valve (19).

18. The device as claimed in one of claims 15 through 17, characterized in that the pressurizing means (17) can

subject the interior of the receptacle (1) with the cells (7) to alternating pressure loads.

19. The device as claimed in claim 1, characterized in that the at least one lid (3) of the receptacle (1) is provided with a suspension means (21) on which a platform (22) for receiving the cells (7) is arranged.

20. The device as claimed in claim 19, characterized in that the suspension means (21) is formed by rods which extend from the lid (3) into the interior of the receptacle and at whose lower end the platform (22) is arranged.

21. The device as claimed in claim 20, characterized in that the platform (22) is connected to the rods (21) in a detachable manner.

22. The device as claimed in claim 21, characterized in that the platform (22) can be connected to the rods (21) by a clip connection.

23. The device as claimed in one of claims 19 through 22, characterized in that the receptacle (1) has a cylindrical middle part which is closed at both ends by an upper lid (3) and a lower lid (12), the suspension means (21) with the platform (22) being arranged on the upper lid (3).

24. The device as claimed in one of claims 19 through 23, characterized in that the receptacle (1) is provided as a two-chamber system for raising or cultivating two cell cultures (7, 7').

25. The device as claimed in one of claims 1 through 24, characterized in that a magnetizable pressure disk (25) is arranged in the receptacle (1) and can be moved by a magnetizing means (24) in order to exert pressure internally on the cells (7).

26. The device as claimed in claim 25, characterized in that the pressure disk (25) is provided with holes (26).

27. The device as claimed in claim 25, characterized in that the pressure disk (25) has a grid or mesh structure.

28. The device as claimed in claim 25, characterized in that the cells (7) are arranged on a support structure (27a) which is acted upon by a pressure disk (25) from one or both sides.

29. The device as claimed in one of claims 1 through 24, characterized in that the receptacle (1) is provided with expandable elements (28) for exerting pressure internally on the cells (7).

30. The device as claimed in one of claims 1 through 24, characterized in that, for exerting pressure internally, a hydraulic or pneumatic means (30) with a movable film, plate or membrane (31) is arranged in the receptacle (1).

31. The device as claimed in one of claims 1 through 30, characterized in that the cells (7) are arranged in a gel (32).

32. The device as claimed in one of claims 1 through 31, characterized in that the receptacle (1) is formed by an upper lid (3) and a lower lid (12), with sealing rings (33, 34) being provided for sealing between the two lids (3, 12).

33. The device as claimed in one of claims 1 through 32, characterized in that the base (23) of the receptacle (1) is formed by a gas-permeable membrane (35).

34. The device as claimed in claim 33, characterized in that the gas-permeable membrane (35) is covered by a sealing structure (39).

35. The device as claimed in one of claims 1 through 34, characterized in that at least part of the inside walls of the receptacle (1) is provided with a peel-off film (40).

36. The device as claimed in one of claims 1 through 35, characterized in that the receptacle (1) is designed as a multi-chamber system (chambers 41, 42, 43).

37. The device as claimed in claim 36, characterized in that a porous support (44) is arranged between a second chamber (42) and a third chamber (43).

38. The device as claimed in claim 36 or 37, characterized in that, in a first chamber (41), a culture medium can be introduced in a first step, and a gaseous medium can be introduced in a second step.